



THOMAS G. NEWMAN,
EDITOR.

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EDITORIAL BUZZINGS.

Buzz, Buzz, Buzz!
From morning's first gray light,
Till fading of daylight,
It's singing and toiling
The summer day through.
Oh! we may get weary,
And think work is dreary;
"Tis harder by far
To have nothing to do.

—St. Nicholas.

Mr. R. J. Kendall, whose many articles appeared in the AMERICAN BEE JOURNAL three years ago, is now in New Zealand.

Deep Snow is reported in all the New England States and Canada. Michigan, too, is reported to have snow 2 feet deep on the level, with the temperature at from zero to 16° below.

Best for Advertising.—Mr. Geo. E. Hilton, of Fremont, Mich., on Jan. 26, made this assertion, about advertising :

My pamphlets are going off like hot cakes. I am advertising in several periodicals, but the AMERICAN BEE JOURNAL has brought me more responses, so far, than all other sources combined! Long may it live.

Honey Vinegar.—A correspondent in the *Bee-Keepers' Magazine* tells what to do with dark fall honey, and make it of cash value, thus :

I had about 40 pounds of nice fall honey, so I asked a store-keeper what he was paying for such kind. He said 3 cents a pound, but I refused to sell, and took my honey home, put it in two 45-gallon barrels, and put boiling hot rain water with it. When it cooled off I put some vinegar "mother" in each barrel, and in the summer, I sold 90 gallons of the best vinegar that was in the county, at 16 cents per gallon. I paid my tax with it.

At the St. Louis Fair, held last fall, the premiums amounted to \$140, besides the diplomas awarded. These exhibitors obtained all the awards: William Kimble, DeWitt, Iowa, \$58; R. Grinsell, Baden, Mo., \$43; Dr. G. Leibrock & Sons, \$39; and Simon Moser, Bridgeton, Mo., \$1. It certainly paid the three first-named exhibitors to make a show of their bees and honey. They also obtained many premiums at other Fairs and Exhibitions in the West.

The Apiculturist is here in good time. The February number was on our desk on Dec. 27, and it is full of good matter on "bees," and for their "keepers."

The Year 1888 promises to be eventful. Five eclipses will occur—three of the sun and two of the moon; the first of which was a total eclipse of the moon on Jan. 28. It also gives five Wednesdays in February, being leap-year, consequently there will be five issues of the AMERICAN BEE JOURNAL in the shortest month of the year. It is only once in four years when there is more than just four weeks in the month, and the first and last days may not come on Wednesday for half a century.

Bees and Ants as Food.—An exchange says that the Cingalese (natives of Ceylon), eat the bees after robbing them of their honey. Caterpillars and spiders are dainties to the African bushmen. Ants are eaten by various nations. In Brazil they are served with a resinous sauce, and in Africa they are stewed with grease or butter. The East Indies catch them in pits and carefully wash them in handfuls, like raisins. In Siam a curry of ant eggs is a costly luxury.

The Little Son of Dr. A. B. Mason is very ill, and the Doctor writes us that he has not had his "clothes off for six days and nights." We are much pleased to learn that he is a little better now, with prospects for recovery. The Doctor and his family have our sympathies.

"The Bee-Keepers' Advance and *Poultryman's Journal*" is the title assumed by Brother J. B. Mason, in the second volume. The January number is just at hand. It is enlarged to 20 pages, and looks well.

Convention Number—that is what the next issue of the BEE JOURNAL will be. We already have the reports of the proceedings of four conventions waiting, and we shall give nearly all our space to them next week.

Volume II of "Bees and Bee-Keeping," by Mr. Frank R. Cheshire, is published. As soon as we receive a copy we shall give a review of it.

Giving Credit for Selections.—On page 611 of the BEE JOURNAL for last year, we called attention to a chapter from our pamphlet, "Honey as Food and Medicine," being copied into several papers, credited to the *Farmer and Dairyman*, and signed Thos. Brasel, Portland, Oreg. In the last issue of that paper, Mr. Brasel makes an apology in these words:

I was surprised myself when I read the above notice; it was the first intimation I had of not giving Mr. Newman credit for his articles, and, of course, it was unintentional neglect on my part, and I think it was the first time I neglected to do so.

In past years I had furnished the *Farmer and Dairyman* several articles for publication, in which were occasional quotations from Mr. Newman's pamphlet, "Honey as Food and Medicine," and my only object in doing so was to inform the people all I could on the good qualities of honey as food and medicine.

We are always glad to have our articles copied by other papers when due credit is given, and we are glad to learn that the omission in this case was unintentional.

This is the Time for reading. The long winter evenings can be utilized by reading up bee-literature. We have all the newest bee-books, and can fill all orders on the day they are received.

Bees Flying.—In answer to the question, "At what temperature do bees fly?" the editor of *Gleanings in Bee-Culture* remarks thus in its issue for Jan. 15, 1888:

I know exactly, for I have just been out this 6th day of January, and watched the bees which were pouring out of the hives in different directions. As the sun did not shine at all, and there was no wind, I had an opportunity of getting a pretty fair test. A few started out when the thermometer stood at 50°, but there was not a general flight until it stood at about 55°. Had there been sunshine it would have made a vast difference; but as it was, they flew from entrances pointing to the north just as freely as if they were facing the south.

The Ohio Convention.—We expect to publish the report of its proceedings next week. In *Gleanings*, Brother Root remarks as follows concerning one well-known to our readers:

Dr. G. L. Tinker, of New Philadelphia, also contributed much of value to our meeting. The Doctor is not only a bee-keeper, but he is one of the finest workers, both in wood and metal, that we have in our State. He exhibited some beautiful samples of cases for sections, honey-boards, perforated zinc of his own manufacture, etc. Dr. Tinker is a firm advocate of sections open at the sides as well as top and bottom.

Poor Seasons and Hard Winters are an injury, but poor seasons come to nearly every business. In calculating the profits of bee-keeping, we must make allowance, for poor seasons, and a loss in winter occasionally. After making this allowance the experience of those who put energy and push into their efforts, shows as good profits are usually obtained in any other rural pursuits.—*Exchange*.

GLEAMS OF NEWS.

Bogus Butter in England.—The following cable dispatch will show how Englishmen view the adulteration of food products :

LONDON, Jan. 23.—The law passed at the last session of Parliament, relating to the fraudulent sale of oleomargarine, went into effect to-day.

For the first offense the minimum fine is \$100, second conviction a fine of \$250, and third conviction \$500. The law provides that every package of oleomargarine shall be branded with the word upon the top, bottom and sides.

Retail dealers selling small quantities are required to deliver it to the purchaser in paper wrappers, on which the word "margarine" shall be printed in capital letters not less than a quarter of an inch square.

In case of doubt, where adulterated butter is exposed or sold, the act prescribes that the presumption of fraud shall be against the seller, unless he can prove that he bought the substance as butter, and holds a written warranty or invoice to that effect.

Similar restrictions should be enforced by law upon all adulteration of food products in America. We are glad to see that the United States Congress are wrestling with this subject now.

Foul Brood is very prevalent in Australia, as will be seen from the following from the *Australasian Bee Journal* for December, which has just come to hand :

In almost every district, from one end of the Australasian Colonies to the other, that scourge of the bee-keeping industry, foul brood, exists. Eight years ago it was only known to be in a very few widely-separated districts, and clean, healthy colonies were then the rule. The disease has spread to an alarming extent during the past few years, thousands of colonies have perished, and some districts have become so infected with it that it is only with the greatest vigilance and perseverance that bee-keeping, even on a small scale, can be carried on at all in them. Very few apiaries, indeed, can boast of being entirely free from the disease at the present time. It is now a matter of so serious a nature, in fact, that unless some thorough-going steps are taken very shortly to stamp out the pest, the bee-keeping industry in these colonies will soon become a matter of history. Hundreds of people have been compelled to give up keeping bees at considerable loss to themselves, owing to their inability to conquer the enemy, and many who looked to honey-production as a means of livelihood, or to augment their small means, have been sadly disappointed by their bees dying off.

Honey-Dew for Winter Stores.—In the Michigan *Farmer* we find the following item which explains itself :

As illustrating the vicissitudes of bee-keeping, Mr. S. Cornell, of Lindsay, Ont., had 212 colonies of bees which he put into winter quarters in the fall of 1886. Unhappily, the bees had stored honey-dew, and all that had laid in winter stores of this, largely succumbed "to the inevitable." In June of the following year, he had but 58 colonies remaining. Mr. Cornell now strongly advises extracting honey-dew, and feeding sugar syrup.

Alfalfa or Lucerne.—A correspondent wants us to answer the following questions about alfalfa or lucerne clover :

What is the best time of the year for sowing it? How much seed is required to the acre? What soil does it require? How many pounds are there in a bushel?

In reply we would say that lucerne or alfalfa (*Medicago sativa*) was introduced into the Pacific States from Chili, many years ago. It resists the driest weather, and it is said that when every blade of grass droops for want of moisture, it holds up fresh and green.

The hay is valuable for cattle, but as it is cut for this purpose early, that lessens its value for honey.

The seed should be scattered plentifully in the winter months, so that it may settle



Alfalfa or Lucerne.

onto the soil with the spring rains and germinate. It will grow on any soil; there are 60 pounds to the bushel, and 25 pounds to the acre will be sufficient. It is said that this valuable grass was brought into Greece from Persia nearly five hundred years before the Christian era. It came to California from Chili, but it is now largely cultivated in England, France, and other parts of Europe, and gives satisfaction as a forage plant.

Alfalfa will be a prominent crop in all places where the winters are not too severe. The power to withstand great heat and dryness comes from the long, searching tap-roots, which are sent deeply down into the soil and find moisture which is inaccessible to other less energetic vegetation.

Pear Honey and pear cider in Switzerland are often found, and a Swiss correspondent from Parkville, Mo., has sent us the following concerning its manufacture :

I was born in Switzerland in 1837, and was partly raised there. I have no doubt whatever about honey in my native land being just as pure as we have it here. But "pear honey" is just as pure as such, and that it is frequently (though not extensively) made is a fact to which I can certify, for I have made it myself.

Pear cider is much more frequently made in Switzerland than apple cider. That, at least, was the case when I lived there. This cider is boiled down with fine sugar until it is of the consistency of honey, and put away in jars for special occasions. It has the full flavor of the fruit, and is a delicious "honey."

If there is any wrong in calling it "honey," it is a wrong without malice, and therefore not to be likened unto the "Wiley lie."

It is a misnomer to call it "honey," but no worse than to call apple butter, "butter," when it is in no wise butter. What we said about "Swiss honey," on page 819 of last year's BEE JOURNAL, only had reference to the real article or an adulteration of it.

The Scandalous Wiley Lie in New Zealand. The *Australasian Bee Journal* copied an article on glucose from *Harper's Monthly*, in which the author says that it is "much used by confectioners and brewers, as food for bees, in making artificial honey, but most of all for the production of table syrups. It then adds :

The passage which I have put in italics smacks very strongly of the famous "Wiley" scandal, and owes its origin no doubt to the same source, as the writer, in a note at the end of his paper, acknowledges his indebtedness for some of the materials, to "Prof. H. W. Wiley, of the Agricultural Department." The defense of the quality of glucose is not a very convincing one. To say that it is *probably not unhealthy* is certainly a mild way of putting it. It may not follow that it *must be poisonous* on account of the quantity of sulphuric acid used in its formation, but the process is not a very appetizing one, especially when we know that the glucose can be extracted in this way not only from corn and potatoes, but even from old linen or cotton rags, or any refuse containing starch of vegetable origin. Those who prefer such stuff to pure honey, even though the latter should cost many times as much, are scarcely to be congratulated on their taste.

Frightening Bees with Carbolic Acid Vapor is more effective if properly applied than smoke; in the case of straw-skeps it is the same. I have frequently advised bee-keepers not to pump the fumes into the hives; but many do not seem satisfied unless they can "go at" their smokers or fumigators as though they were pumpers on a fire engine when the word is passed, "Down with her." You simply want to breathe, if I may use the expression, with the fumigator at about the rate that you breathe yourself, shifting it about to drive the bees back. The air passed out of the fumigator must be thoroughly impregnated with carbolic acid vapor, and must pass over the sponge at least twice to be thoroughly effective. I have driven hundreds of straw-skeps with the fumigator both in private and in the bee-tent, and have not used smoke in my apiary for two seasons.—*British Bee Journal*.

We Club the AMERICAN BEE JOURNAL and the "Bee-Keepers' Magazine" for one year for \$1.40; or with "Gleanings in Bee-Culture" for \$1.75; or with the "Apiculturist" for \$1.80; or with the "Canadian Honey-Producer" for \$1.90; with the Bee-Keepers' Review, \$1.40; or all six for \$4.00.

New Subscribers can obtain the full numbers for 1887 and 1888, for \$1.75, while there are any sets of 1887 left.

IGNORANT PREJUDICE.

Several times during last year we made reference to the ignorant prejudice of the neighbors of Mr. Z. A. Clark, at Arkadelphia, Ark. His bees, on account of the drouth last summer, worked on the juice exuding from decaying peaches. Thereupon these same prejudiced individuals spread the "howl" that "Clark's bees are eating up the peaches." One ignoramus went so far as to declare that the bees ate up his "young ducks!"

Thereupon the City Council ordered the removal of the bees by June 6, and Mr. Clark was arrested for maintaining a nuisance by keeping his bees within the city limits, and ordered to remove them.

The Bee-Keepers' Union promised to help him defend his rights, and see the matter through, for it would be very detrimental to the pursuit to allow a decision against bee-keeping to be put upon record on the plea of its being a "nuisance."

Major J. L. Witherspoon, ex-Attorney General of Arkansas (who stands at the head of the Bar of the State), was employed to attend to the matter on behalf of the bees.

The case is now going to the Supreme Court on an appeal, and the Hon. S. W. Williams, of Little Rock, has been engaged to assist in defending Mr. Clark, who wrote us the following particulars last week:

I was arrested on Jan. 2, 1888, by order of the Mayor for maintaining a nuisance within the city limits, in keeping my bees there.

I think with the evidence we have, with Mr. Williams in the case, we will undoubtedly win. Now is the time for us to make this thing "hot," as it will affect the welfare of every bee-keeper that is so unfortunate as to live in an incorporated city or village.

I think that we should have two or three good lawyers in this case, as it will be a great blessing to bee-keepers in incorporated cities and towns for us to gain this suit. If we should lose it, we will all have to "get out" all over the United States. "In the multitude of counsel there is wisdom."

I shall have to sacrifice my time, business and bees in order to attend to this case of appeal. It will cost over \$300 to appeal it, and I am too poor to pay any more than I have already done in the expenses of the lower court, and for my attorney here. I must, therefore, appeal for help, through the Bee-Keepers' Union, to all the bee-keepers of America.

I am not able to carry on this suit and do justice to myself and family. I think justice to bee-keepers demands that this law be defeated, and not let us go before the world as a class of men that carry on a business that is "a nuisance." We will have to get affidavits from bee-keepers living all over the United States, stating whether bee-keeping is "a nuisance" or not. We have been condemned, but not by men that know anything about bee-keeping. If any one can give me advice, he will please write to me.

Z. A. CLARK.

We have repeatedly requested bee-keepers to join the Union, and thereby place it in a position to defend them in such cases as the above, and unless some hundreds at least do so at once, the Union will not be able to lift up a "successful standard" against the enemy. Reader, what say you about this? Will you become a member? The dues are now only one dollar!

QUERIES & REPLIES.

MOVING BEES IN WINTER BY SLEIGH OR RAILROAD.

Written for the American Bee Journal

Query 511.—Will you kindly advise me as to the best time, and way, to move 12 colonies of bees that are packed in hives, with old combs in Langstroth size, closed-end frames? I want to move them on a sleigh three miles, over pretty rough roads, and then 17 miles by railroad, and then again 2 miles by sleigh. Do you think it advisable to move them in this way; or do you think it better to move them the whole way by sleigh? If I move them all the way by sleigh, after the first 3 miles the road is pretty good.—New York.

Move them all the way in a sleigh.—
MRS. L. HARRISON.

I would wait until spring, if possible; if not, move them all the way by sleigh.—
W. Z. HUTCHINSON.

I do not like to move bees so far in the winter; but if obliged to, I would use the sleigh all the way.—A. B. MASON.

I would wait until April or May, and move them in a spring-wagon either all the way, or partly by rail.—
M. MAHIN.

If you cannot wait until spring, I believe I would as soon risk taking them all the way in the sleigh.—C. C. MILLER.

I should move them all the way by sleigh, by all means, if I moved them on snow. But why not wait until May, and then move them. I think that this would be better.—G. M. DOOLITTLE.

As I understand the question, I would pack them in straw, secure them to the sleigh, and make the whole journey with the sleigh.—H. D. CUTTING.

I should much prefer not to move them until April. If you must move them now, put a thick cushion of hay or straw on a sleigh, and move them all the way on it.—R. L. TAYLOR.

We would keep them on the sleigh, although it does not make a very great difference. But why do you not wait until the proper time—March—and move them on a wagon? It is far safer.—DADANT & SON.

I would arrange the time to suit my convenience, and the condition of the roads. I would prefer a sleigh. If the frames are well propolized, they need no extra preparation, only give plenty of ventilation by tacking wire-cloth over the entrance, and place them securely in the sleigh, with the frames running parallel with the road.—
J. P. H. BROWN.

The best time to move them is when they can fly freely, immediately upon arrival; but it is not usually good sleighing at that time. We make no preference between all the way by sleigh, or cars and sleigh. Do not be

afraid to give them lots of ventilation, no matter how cold the weather is.—
JAMES HEDDON.

I would not advise moving the bees on the cars in cold weather; but they can be moved by sleigh.—G. L. TINKER.

I would consider it very risky to move them so far before spring. I would get two spring wagons, load them with the frames crosswise of the bed, and make the one time handling do, by driving them through in one day. You should tack screen-wire over the entrances, to give sufficient ventilation, and they should have a flight the day following.—J. M. HAMBAUGH.

Move the whole distance by sleigh. Put the hives on straw in the bottom of the sleigh, then pack in the sleigh so the hives will not interfere with each other, or with the sleigh, in transit. Drive carefully, and where the roads are rough, with extra care.—J. M. SHUCK.

I should move them the whole distance with a sleigh, if the road is fairly good. They may go all right by rail, but the risk of changes is great, and can be avoided by moving at one job. The frames should be securely fastened in the hives, and ample ventilation given. It is not safe to move bees such a distance in the winter, in any case.—
J. E. POND.

I should prefer to wait until spring; though I have known so many cases of bees being moved in mid-winter with entire success, that I should expect success even though I moved them now. I think that I should use the sleigh all the way. It would be cheaper, doubtless, and fully as well for the bees. Use plenty of straw, and disturb the bees as little as possible.—A. J. COOK.

I dislike very much to disturb bees in cold weather, and I should prefer to wait until spring. If it is necessary, however, to remove them now, choose a moderate day, and I should prefer to move them all the way by sleigh. As there are only 12 hives, and the distance is only a reasonable day's drive; one load would take them nicely, and you would be done with it. Fasten in the bees with wire-cloth, even in cold weather while removing them, and if carefully handled there is little danger.—C. H. DIBBERN.

I would move them the whole way while they were on the sleigh. I have moved bees in this way several times with perfect safety. Your close-end frames will stay in place without any wedging up. A friend of mine moved 100 colonies 40 miles in four loads, on a large spring-wagon. Not a comb was broken. Another time the same man hauled 50 colonies in Langstroth

hives, on a common farm wagon, on which he had a long hay-rack. We move them at any time in the fall, winter or spring. Perhaps towards spring would be the best in your climate, where bees do not have the opportunity to fly as often as they do here.—G. W. DEMAREE.

The combs are very brittle now, and it is dangerous to move bees at this season on account of the liability of breaking down the combs. The hives must be handled with care, and should only be handled at each end of the route—therefore a sleigh-ride all the way is better than part railroad. If they must be moved now, instead of in March, secure the frames, and load on the sleigh, so that the frames cross the road bed, and let them be very carefully driven, especially over the rough part of the road.—THE EDITOR.

WINTER FLIGHTS FOR BEES IN A CELLAR.

Written for the American Bee Journal

Query 512.—Should bees be taken from the cellar on a warm day during winter, so that they can have a flight? My cellar opens into the kitchen, and it is hard work to take them up and down the steps; but if it is necessary to take them out occasionally, I will do it. I fear that the cellar is too warm a part of the time, and there is no good chance to ventilate it. The temperature varies from 44° to 48°, but the bees seem quiet the most of the time.—Indiana.

No; let them remain where they are.—JAMES HEDDON.

Do not take them out.—DADANT & SON.

Not if they are as quiet as you say.—A. B. MASON.

Let the bees alone until spring, would be my advice.—G. M. DOOLITTLE.

Do not take them out. The temperature is all right.—W. Z. HUTCHINSON.

I would make every exertion to keep the cellar at an even temperature; and if the bees are quiet, I would not disturb them.—J. P. H. BROWN.

No, not at all. The temperature of your cellar is fairly good, and your bees are undoubtedly in as good condition as possible.—R. L. TAYLOR.

I have no experience with cellar-wintering, but I would not disturb them unless they are very restless, and show signs of disease.—M. MAHIN.

If they are quiet, let them alone; do not interrupt if all is well. If uneasy, let the circumstances suggest the change to be made.—J. M. SHUCK.

Not unless they are noisy and restless, showing diarrhetic symptoms, by discharging their feces around the entrance and over their combs. Give them ventilation if possible, and keep the temperature from 40° to 45°, Fahr.—J. M. HAMBAUGH.

The conditions must govern in all cases. If they are quiet and show no signs of disease, let them alone until you are ready to put them out in April. I think that the temperature is too high, at 48°.—H. D. CUTTING.

So long as the bees are quiet, I certainly should not disturb them. I do not give my bees any flight from the time they are taken in until they are taken out to stay in the spring.—C. C. MILLER.

I have never wintered bees in a cellar, but judging from my reading of experiments of this nature, I should prefer not to give them a flight. It may do no harm, and may so disturb them as to cause great loss.—J. E. POND.

They should not be taken out. The temperature is about right. If the bees get uneasy, later in the season, give them water. The temperature can be lowered if thought necessary, by placing some cakes of ice in the cellar. Another season put in sub-earth ventilation.—MRS. L. HARRISON.

Bees do not require to be removed from a good cellar for a flight during the winter, as long as they remain reasonably quiet. Indeed, I think it a disadvantage to do so, as it has a tendency to make them restless afterward. As long as the temperature can be kept below 50°, the bees are better off in a cellar than anywhere else. I have had bees confined for over five months, with no bad results.—C. H. DIBBERN.

By no means. If you have a cellar where you can keep the temperature between 36° and 48° Fahr., and the bees have good food, they are all right. I do not carry my bees out until April. Should the bees become very uneasy, and by change of ventilation and temperature I could not quiet them, I should carry them out if a warm day came. I never expect, however, any such experience.—A. J. COOK.

As long as the bees remain quiet and healthy in the cellar, they may be left alone until April. Still the colonies will do better to take them out about March 1, and pack them on the summer stands. They will be less liable to spring dwindle, and will build up into strong colonies at least two weeks ahead of colonies put out of the cellar in April. It does no harm to remove the bees from the cellar at any time in the winter on suitable days, and return them after a flight, or pack them.—L. TINKER.

As long as they remain quiet, they will not suffer for a flight. I have kept a small colony in my office all winter, where there is a summer temperature kept up in the daytime, and the temperature goes down below the freezing point when the nights are cold. They are in excellent health

now (Jan. 20). I have another small colony that is kept in a vegetable and fruit cellar, at a temperature a little above the freezing point, during cold weather. The colony is moved into the office once in about ten days, where they are "warmed up" till they ventilate with a "loud roar" as in summer time. After their day's exercise, they are returned to the cellar. They are also in fine health. I am very much interested in these experiments.—G. W. DEMAREE.

As the bees are quiet in the cellar they are not diseased, and may with safety remain undisturbed until the spring comes. Keep the temperature as even as possible.—THE EDITOR.

BEE CONVENTIONS.

Wisconsin State Convention.

The bee-keepers of Wisconsin meet in their fourth annual convention, at the Capitol in Madison, Feb. 8, 1888.

In consequence of the State Agricultural Convention being held in the same week, with its usually interesting essays, speeches, papers and discussions, the bee-convention will probably last but one day. Reduced rates can be secured on all railroads, thereby making the expense much less, and giving those who wish to do so, a chance to attend both conventions.

The following is the programme for the convention :

President's Address, C. A. Hatch, Ithaca
Notes from American Bee-Keepers' Convention, Frank Wilcox, Mauston.
Relation of Producer to the Commission Merchant, A. V. Bishop, Commission Merchant, Milwaukee.

The Heddon Hive and How to Use it, W. H. Putnam, River Falls.

How to Build a Bee-Cellar, D. D. Danher, Madison.

How to Get the Best Extracted Honey, E. F. Francke, Platteville.

Comb or Extracted Honey; Which? F. Minnick, North Freedom.

C. A. Hatch, President, Ithaca, Wis.
Frank Wilcox, Secretary, Mauston, Wis.

CONVENTION NOTICES.

Des Moines County Bee-Keepers' Association will hold its next meeting on April 24, 1888, at Burlington, Iowa.

JOHN NAU, Sec.

Hardin County Bee-Keepers' Association will meet at the Court House in Eldora, Iowa, on the second Saturday in each month, at noon (12 o'clock), until further notice.

J. W. BUCHANAN, Sec.

Stark County Bee-Keepers' Society will be held in Grange Hall at Canton, O., on Feb. 4, 1888. A full attendance is desired, as business of importance will be considered.

MARK THOMSON, Sec.

Susquehanna County Bee-Keepers' Association will be held at New Milford, Pa., on Saturday, May 5, 1888.

H. M. SEELEY, Sec.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

CORRESPONDENCE.

HONEY-PLANTS.

Insuring Bees—Honey-Plants of Minnesota.

Written for the American Bee Journal
BY J. M. DOUDNA.

On page 8, Mr. A. C. Waldron asks if any one has had experience in insuring bees against fire while in the cellar. I have had mine so insured for some years in the Minnesota Farmers' Mutual, of Minneapolis.

Linden and White Clover.

Linden is our only dependence for surplus honey. It has never failed, to my knowledge, and there are not bees enough kept in this county to gather a hundredth part of it.

White clover is now to be found in many places, but we have no old pasture fields, as in the East. Some years ago I bought a few pounds of white clover seed, and scattered it in such places as it would be likely to grow. I did this for several years, and got a few pounds of clover honey in 1886. It did not yield any surplus in 1887, owing to the drouth, but I think we will soon get a good return for the money invested. I was not as successful with sweet clover, as it does not get started along the roads at all.

Various Honey-Plants.

Motherwort promises to be the best honey-plant of all. It commenced to bloom on June 12, 1887, and the bees worked on it until frost. The bees did not leave it for linden. I found a few plants two years ago, and saved the seed, and now have a half peck to sow in the spring.

For pollen I have never seen anything equal to asparagus. Does it yield any honey? Golden-rod has never amounted to much as a honey-plant here. The bees scarcely notice the pleurisy-root, though there is plenty of it.

I tried the spider-plant, but I could not get it to grow, except from plants raised in a hot-bed. The Simpson honey-plant (figwort) soon runs out. The Chapman honey-plant is not hardy in this climate; the first severe freeze killed every leaf, and the root appeared to be dead before the middle of November.

Moths and Italian Bees.

What has become of the bee-moth? I have not seen one for two years. There was plenty of them before I had the Italian bees. I have several hundred surplus combs, and I have never fumigated them, but hang them on

nails driven in the rafters in the shop; but not a moth has appeared for the last two years.

I made a solar wax-extractor that is as near perfection as I could wish. I made it from the directions given by Mr. Demaree, on page 501 of the AMERICAN BEE JOURNAL for 1886.

Good Location for Bee-Keeping.

The bees appear to be wintering very well with the mercury at 44° in the cellar. The thermometer showed only a variation of 3° in the cellar during the late blizzard.

To any one seeking a location for an apiary, I know of no better place than this county. Land is cheap and good, with plenty of raspberry and linden, and as soon as clover is well started, it will fill the time between them. Good returns are sure to follow good management. Some of the best towns in this region have scarcely a colony of bees in them. But this is no climate for "fence-corner bee-keepers."

Alexandria, Minn., Jan. 20, 1888.

CALIFORNIA.

Keeping Bees on the High Mountains.

Written for the American Bee Journal
BY G. W. COVER.

After the advent of the honey-bee to this State, the absconding swarms went to the Sierras. In a few years they were gathering nectar from the flowers on every hillside, from the valley of dates, figs and oranges, to the snow-manteled summits of the Sierra Nevadas; away among the lakes, at the extreme limits of the timber belt, and in the gorges and canyons, is the hum of the busy bee heard. The writer has frequently found them at work where one could stand with one foot in a snow bank, and the other in a bed of flowers, in August.

I commenced bee-keeping at an elevation of about 4,000 feet above sea-level. The bees swarmed and did well. The mountains was still higher on either side, as I was in the canyon of the Yuba. The honey-flow is later as one ascends. I thought that I would move up a thousand feet higher, so the bees could work down in the spring, and they would have 1,000 or 2,000 feet above them later on. The trouble is, I cannot get any swarms at this elevation, something over 5,000 feet. I have been here about five years, and have not had swarms enough to keep up my stock. Bees swarm more below me, at 3,000 feet, and under that they swarm to excess, and all absconding swarms invariably go for the higher mountains.

The honey crop failed here for the first time in 14 years; there were no swarms and no honey the past year. Let us hear what has been the experience of other bee-keepers in regard to elevation, and what effect it has had upon swarming. I have tried box-hives, and the bees would not swarm from them.

Downieville, Calif., Jan. 2, 1888.

BEE-KEEPING.

Report of the Work and the Results in the Apiary.

Written for the American Bee Journal
BY J. M. YOUNG.

In looking over the pages of the AMERICAN BEE JOURNAL, I am glad to note quite an improvement in the paper since last year. It is undoubtedly the best work published on apiculture. Every bee-keeper should read it.

Bees throughout this portion of the State did fairly up to the close of the basswood bloom, however only a fair surplus was stored from that source. Since that time only enough was obtained by the bees to make a fair living for them. I fear that a large number of colonies will be lost in this county, from starvation, long before spring. Apiaries that were well cared for during the last summer, will come out all right.

My report for the season of 1887 is far from being a good one, and is not encouraging, by any means. From 76 colonies, spring count, upwards of 1,700 pounds of honey, including both comb and extracted, was obtained; only about 20 colonies were worked for extracted honey, with two sets of combs. The remainder of the apiary was worked for comb honey throughout.

I put into winter quarters 96 strong colonies, with plenty of honey to last them until honey comes again; 75 colonies were packed in a summer-and-winter chaff hive, with the upper story filled with dry leaves and chaff. A portion of the hives are now entirely covered with snow; the remainder of the hives are about half-covered. Just as long as it stays cold I have no fears about their wintering all right. I am not going to disturb them until the weather begins to get warmer, and the snow begins to melt.

One or two days the last week the mercury was as low as 25° below zero; the average temperature for the week being at zero. With this temperature of the weather very long, I presume that bees wintered in single-walled hives will suffer badly.

Rock Bluffs, Nebr., Jan. 18, 1888.

CANADA.

Annual Meeting of the Ontario Bee-Keepers' Association.

Written for the American Bee Journal
BY R. F. HOLTERMANN.

The Ontario Bee-Keepers' Association met at Woodstock, Ont., on Jan. 10, 1888, at 2 p.m., the President, Mr. S. T. Pettit, being in the chair.

Mr. Malcolm read an essay entitled,

The Production of Extracted Honey.

Next to the movable frame no invention has done so much to increase the production of honey as the extractor. When it was found that combs could be lifted from the hive, emptied of their contents, replaced, and refilled, a stimulus was given to bee-keeping that the most enthusiastic never dreamed of. But much of this enthusiasm was based on theory. How simple it looked. Bees are easily wintered, honey is easily gathered, and if we can empty the combs just when we please, what is to hinder any one from making money by keeping bees. But hundreds, and I may say thousands, have found theory and practice two very different things when applied to bee-keeping.

Still bee-keeping has a future, and men and women will succeed in gathering the sweets of nature in large quantities to the benefit of themselves and the good of the public, and from anything we can see at present, honey in the extracted form will take the lead as regards the quantity, by large proportions. It is therefore important that the producer should understand the means of securing his crop in the highest degree of perfection.

As far as quantity is concerned, I am at a loss to know what to advise, so much depends upon the conditions, especially as regards the strength of the colonies, favorable weather, and the amount of nectar. Many of the most experienced apiarists fail in regard to the first, and the last two are beyond human control. But with all these conditions favorable, we do claim to know something. In fact, I have said in conversations and through the press, that if there was any one thing I knew, if there was any one thing I could cordially recommend, if there was one item of advice I could give with pleasure, it is, *do not extract honey till it is ripe*. And yet, strange as it may seem, there are men who know much more about bees than I do, who say this is not necessary, that honey can be ripened after it is extracted. I cannot account for this except on the principle that some men lack the ability to judge both flavor and texture.

It is an admitted fact that some men are color blind, but that is no proof that there is not a great variety of colors. So it is in judging of the quality of honey. Every one must know for himself. Believing this to be a matter of great importance, and wishing to impress it upon the convention, I would say that bees do not gather honey, they gather nectar, and from nectar produce honey. It is therefore a process of manufacture, and if it is removed from the bees before that process is finished, man cannot finish it.

If asked what the bees do that man cannot, I say, I do not know. But I do know, and many others know, that there is a flavor and texture about honey that has been thoroughly capped that cannot be produced except by the bees. Why is it that comb honey is so much preferred to extracted? Do people give nearly double the price simply because it is a fancy article? No doubt this accounts for part of the difference, but the principal reason is, the honey is really finer than honey extracted before it was ripe.

I believe it is unwise to extract from the brood-nest and mix the honey with what is intended for market; with very few exceptions can this be done without injuring the flavor and color. I believe in and practice taking all surplus from a top super. What the best size is for combs in the super, I do not know, having only had experience with combs the same size as those in the brood-chambers. I believe that this is the best practice, as it has several advantages that I need not here mention.

I also believe in using a queen-excluding honey-board, for by having the queens below, a great deal of trouble is saved while extracting. When the queen leaves the brood-chamber, it soon becomes a house in ruins.

A difficulty arises sometimes during a heavy honey-flow, when everything is full, but none of it ripe enough to extract. In that case it is better to put on a second super, on the tiering-up system; that is, putting the empty one under the full one. The objection to this is, that it is expensive. I have tried with some degree of success to remedy the difficulty by only putting in one-half of the super combs, when the super was put on. The bees commence to fill those, and just when they are commencing to build new comb in the empty half of the super, I fill it with the remaining combs. Those that were first put in will be filled and capped much sooner than if all had been put in at once, and frequently they may be taken out and extracted a few days before the others are ready. This is a kind of make-shift. The best plan is a second super. F. MALCOLM.

In reply to a question, Mr. Malcolm stated that he used a perforated metal honey-board. He could not say what the comparative yield of comb and extracted honey would be. J. B. Aches, M. S. Shell, J. B. Hall and others sustained Mr. Malcolm in the statements of his essay, especially as to the necessity of having the honey sealed before extracting. Mr. A. Picket said he thought that it could be taken from a part of the body of the hive by means of perforated metal. The convention, by a large majority, appeared to be in favor of Mr. Malcolm's method.

The Mayor of the city, at this stage of the proceedings, gave an address of welcome.

J. E. Frith, of Princeton, whose bees have the foul brood, on account of careless and inexperienced neighbors, thought that the extractor was often dangerous in the hands of the inexperienced. W. F. Clarke, of Guelph, condemned the honey-extractor, but the members present however objected to this, and thought if the extractor is rightly used, it is a great acquisition.

A discussion at this time took place on the advisability of men commencing bee-keeping without experience, and a resolution was read as follows:

Resolved, That whilst it is the inalienable right of every body to enter bee-keeping, the same as any other honest business, it is the sense of this convention that it is unwise to do so without adequate knowledge and due qualification.

A vote was taken upon the resolution, after an amendment was made, allowing the purchase of a colony or two, and to gain experience as one went along from papers, books, and bee-keepers; 5 voted for the amendment, 8 for the resolution, and a large number did not vote all.

A long discussion followed upon "Cellar wintering of bees." The temperature of J. B. Hall's cellar at present is 54°; of C. McNally's, 55°; of Jacob Alpaugh's, 50°; and Martin Emigh's, 50°.

As to the question of under-ground ventilators or by air-pipes, the majority were in favor of discarding them, among them being Messrs. J. B. Hall, Emigh, and Alpaugh.

EVENING SESSION.

Mr. J. B. Hall read an essay upon

The Production of Comb Honey.

I am requested to give an essay on the best method of producing comb honey. Allow me to state that any method is but of little value unless in conjunction with the following conditions:

1. Bee-pasturage in abundance, of not more than two miles radius of the apiary.

2. That the pasturage should not be overstocked, but rather that it should not have enough bees on it to gather all the honey-flow.

3. That there be in charge of the bees, an apiarist adapted by *nature*, assisted by study and practice, to manage the same (but the *nature* part I consider the most important).

4. It is essential that a hive with movable combs, having a large top surface, be used.

5. That the bee-keeper be a specialist, or as the phrase is, "have all the eggs in one basket;" in that case they can be jealously watched and guarded, and used to the best advantage; not so if the eggs are mixed in many baskets with other things.

If the colonies have passed the winter and spring well, and are strong in bees and brood at the commencement of the surplus honey-flow, a good crop of comb honey can be secured by putting on the hive a shallow super of sections primed with comb or foundation. (I say sections, because if not in nice sections it cannot be sold to advantage.) Open the entrance of the hive to its full size, and when work is well commenced in the super, raise it up and put an empty super between it and the hive; continue thus until your judgment or experience tells you that they have enough space to contain the surplus honey that will be secured.

Other things being right, you will rejoice in a good crop of comb honey.

J. B. HALL.

A discussion followed as to the use of "dummies," and the method was condemned, unless the colony was of no more value, and could be destroyed after the honey season.

There was quite a diversity of opinion as to the use of full combs, full sheets of comb foundation, or starters in the brood-chamber, when working for comb honey. The weight of evidence appeared to be rather in favor of full sheets of foundation, unless one did not care if drone-comb was built. The old comb some found to soil the sections. The nicest sections could be secured by using starters only.

Time of putting on supers: If full combs are used, supers could be put on at once; if full sheets of foundation, almost at once; if starters, after the queen had commenced to lay.

Mr. S. T. Pettit then delivered

The President's Annual Address.

In reviewing the events that have transpired, and the work that has been accomplished during my term of office, I would notice the following:

1. That we have secured incorporation for the Ontario Bee-Keepers' Association.

2. That we have secured a Provincial Government grant of \$500 per year.

3. We succeeded in making an exhibit of honey on a grand scale at the Colonial and Indian exhibition at South Kensington, London, England.

4. We have gotten the management and the price-lists of the aparian department of the leading exhibitions of the Province, more or less under the control of one association, and although we cannot redress grievances of the past; it will be the aim and object of the association to prevent the recurrence of grievances in the future.

5. The foundation of an Association Library has been laid, the first book, of which was a present from our good friend, T. W. Cowan, F. G. S., F. R. M. S., etc.

6. We would not fail to notice the gratifying fact that our aparian literature has been augmented by the publication of the *Canadian Honey Producer*, by our enterprising friends, E. L. Goold & Co., of Brantford.

7. And last but not least, the membership of our association has been largely increased.

And now, in order to make our association all the more useful, I would say, that whatever way the "grant" may be used, strict justice must be done to all parts of the province, and that the weak must be supported as well as the strong.

The appointing of judges and the necessity of placing the price-lists upon a somewhat different basis should be dealt with.

I will repeat my suggestion of last year, that reduced railway rates should be secured for honey. To avoid unfair rates in England, honey is sometimes shipped under the name of syrup.

Owing to ill-health and sickness of a severe nature in my family during the last session of the Parliament, I was unable to apply to the Legislature for legislation to prevent the spread of, and to stamp out foul brood in the country. Would it not be well for the prevention of the further spread of foul brood, to appoint competent judges—to examine and report upon the health of the bees of all those who advertise bees for sale? All who own bees for sale should be very careful not to sell diseased bees, nor should bees be sold and shipped out of a diseased locality.

Another dangerous source of spreading foul brood consists in selling honey from foul-broody apiaries. Empty containers are thrown out, and neighboring bees lick up the disease and carry it home. Imported bees should be examined at the port of entry.

The question arises: Why should the sale of diseased bees, or any other

article calculated to spread the disease, be tolerated any more than the sale of cholera pigs, or cattle afflicted with pleuro-pneumonia? Great care should be observed by those who visit apiaries afflicted with foul brood, to most thoroughly disinfect themselves and all their tools before going into the vicinity of other bees. I am sure that the principle is gaining ground, that the wealthy should not sit down by the side of, and starve out and destroy, a poor brother who has placed all his means, and perhaps more too, in bees and the necessary buildings and other appliances for keeping bees.

The principle, as claimed by some, is not a "new force," but is the same commendable, kind and brotherly spirit that moved Abram, when he said unto Lot, "Let there be no strife, I pray thee, between thee and me, and between my herdmen and thy herdmen; for we be brethren."

To advocate the principle of the "survival of the fittest" in bee-keeping, especially since there are lots of inviting unoccupied fields, is simply to encourage the strong to worry and devour his weaker brother. There is no "Do as you would wish to be done by" in it at all.

Whereas an outlet for our surplus honey, is a question of vast moment to every bee-keeper in Canada, I deem it my duty at this time to say a word upon that important subject.

It will be remembered that a year ago I spoke encouragingly of largely increasing the production of honey in Canada, but when all the facts now bearing upon the case are put together, and weighed and balanced up, they force upon my mind the opinion (and I want that opinion to go upon record) that the British markets are virtually lost to us at paying prices, or even at prices at which a man can make a decent living. I know this is a dark picture to present to your minds, and I am exceedingly pained to be obliged to hang up in this cheerful room one so very opposite from what I could wish to present to the view of this intelligent meeting; but there is no alternative; duty to you all, and to myself as well, imperatively demands that I deal faithfully in this matter.

The collecting of statistics relative to our pursuit should be considered.

And now, in conclusion, I would suggest that the conditions are ripe for devising a scheme whereby all county bee-keepers' associations in Ontario may be affiliated with the parent body.

S. T. PETTIT.

C. McNally gave his method of wintering, and described his cellar. It is made of stone, 20x37, and 9 feet high. There are four sub-earth ventilators,

and a stove-pipe connecting from the bottom of the cellar with the stove-pipe above, and a "cooler" pipe from direct outside. The temperature for the last four years has been 48° to 55°, and he has never yet lost a colony. Some members have damp, and others dry cellars, and are equally successful.

R. F. Holtermann reported that he was about to build a cellar under a dwelling-house. First, stone wall, then a one brick wall inside, allowing an air-space between the two. The ceiling would be tongue and groove boarded, with felt paper, and between this and the floor above have a packing of sawdust; a spring flows through the cellar to equalize the temperature, purify the atmosphere, and probably help to keep the atmosphere dry, as the moisture in the warmer atmosphere would condense upon the cooler spring water. The finest cellar he had ever seen was that of J. Alpaugh, and he had his thus, all but the spring.

R. McKnight gave a description of his cellar or repository, the general temperature of which was 49°, often as low as 44°, but seldom 50°.

THE SECOND DAY.

The morning session of the second day opened with President Pettit in the chair. An essay was then read, written by Mr. James Heddon, of Dowagiac, Mich. Mr. Heddon very ably pointed out how much there was of speculation as to what would overstock a locality with bees. From reports, however, one could see that where a few colonies were kept, a large yield could be secured. His essay closed with the following paragraph:

"I am again determined to add my mite to answering the question, by continually increasing the number of my colonies, until a term of seasons, whose natural advantages and disadvantages, all considered, shall tell me something of this obscure problem."

An essay was read from Dr. C. C. Miller, of Marengo, Ills., which may be found on page 26 of the AMERICAN BEE JOURNAL, in regard to specialists in bee-keeping.

By the reception which the Doctor's essay received, many members were evidently in favor of specialists.

Mr. R. McKnight then read an essay on "Our local honey market, and how to cultivate it." [This essay will be published as soon as we have room for it.—ED.]

The board of directors reported that all the members of last year should have a copy of the revised work of Rev. L. L. Langstroth, on "The Hive and the Honey-Bee."

The Secretary reported \$166.90.

The association adopted a new Constitution and By-Laws, by means of

which county associations can affiliate with the provincial. County associations are to pay \$5 per annum, and must have five members (members of the Ontario). This sum is more than returned by the share of the grant which they secure for competition in prizes at the county show.

The following officers were elected: President, M. Emigh, Holbrook; Vice-President, J. B. Hall, of Woodstock; Directors: F. K. Darling, Almonte; A. Picket, Nassagaweya; Wm. Cowie, Streetsville; Allen Pringle, Shelby; E. Schultz, Muskoba; F. A. Gemmill, Stratford; F. Malcolm, Innerkip; and R. McKnight, Owen Sound. Auditors: F. H. Macpherson, of Beeton, and R. F. Holtermann, of Brantford.

The convention then adjourned to hold the next meeting at Owen Sound, Ont.

Brantford, Ont.

NEBRASKA.

Results of Keeping Bees for Eight Years.

Written for the American Bee Journal
BY WILLIAM STOLLEY.

While, with many bee-keepers, the season of 1887 has been a season of short crops, I cannot complain, and the following is my report:

After selling 5 colonies in the spring, I began the season with but 23 colonies, which were partly in extra good, and partly in but fair condition.

The amount of honey that I took was 2,078 pounds, or an average of 90½ pounds per colony, spring count. I had but 2 colonies for the production of comb honey, which gave a little over 50 pounds each, in one-pound sections.

I increased my apiary to only 31 colonies, which are all well supplied with winter stores (each having about 23 pounds), and I have about 300 pounds of honey in the comb, put aside for late spring stimulation.

My best colony produced 140 pounds of surplus (extracted) honey, while the year previous (1886) I obtained 210 pounds from my best colony. This success I owe principally to the sowing of sweet clover, while fields of Alfalfa clover within two miles of my little apiary have helped the bees materially. (Remember that central Nebraska is naturally not well adapted to the keeping of bees.) Ever since Dec. 9, 1887, my bees have been covered up to stay, and enjoy their winter rest, in a bee-house on the summer stand.

So far we have had a very cold winter. On Nov. 27 the mercury was 32° below, and this morning it was 27° below zero.

For eight years I have kept bees. I commenced with but 2 colonies of hybrids. Guided by the teachings of the AMERICAN BEE JOURNAL and standard works on apiculture, I proceeded cautiously, and the result is, that I have as fine an apiary as there is to be found anywhere. During the eight years I have paid out for bee-house lumber, implements, comb foundation, queens, etc., \$642.16. My cash receipts for honey and bees sold are, \$1,636.78. The value of my apiary to-day is \$640.50 (but I would not sell it at that figure); hence, a balance of \$1,635.12 is left to pay me for my labor.

Of course I do not depend upon my bees for a living; but they are a source of pleasure and recreation to me. I like them!

Bees must be attended to accurately and promptly, whenever they require attention. Persons who are negligent about them, have no business to keep bees. They will only find themselves "left" sooner or later, if they attempt it.

During the last week it has been extremely cold, so that we could not get nor dispatch any mail matter. It was 35° below zero at 9 o'clock this morning. It is now abating, but is still 15° below zero.

Grand Island, Nebr., Jan. 15, 1888.

THE PAST SEASON.

The Honey Yield, Swarming and Wintering.

Written for the American Bee Journal
BY JNO. A. THORNTON.

The bees came out the past spring in excellent condition, and never were better ready to gather a large crop of honey. But the honey did not come. Soft maple first yields honey and pollen here; elm, hickory, hard maple, etc., furnish an abundance of pollen until fruit bloom is over; but the fruit, especially apples, had no bloom last spring, consequently there was no honey from that source. Notwithstanding the above draw-back, the bees continued to increase in numbers until their hives were very full of bees. Most of the colonies were preparing to swarm by May 10, and one colony cast a swarm on May 8, but it did nothing until June 5, when it gathered enough to build comb.

Several more colonies swarmed about this time, but those colonies that cast swarms did not gather any surplus. More than half of my bees did not build comb and store enough honey to last them until the fall yield came. From those that did not swarm, I secured enough surplus to make an

average of 10 pounds each from 140 colonies, or 1,400 pounds, about half comb and half extracted honey, of very fine quality.

The fall yield was quite good—very nearly as good as the four seasons previous had been. The colonies all gathered a good supply for winter use, and an average surplus of 10 or 11 pounds, so that I had nearly 3,000 pounds for sale, with 150 good colonies for the winter.

I am wintering 25 colonies in the cellar, and the balance out-of-doors; 50 of the latter are in Root chaff hives, and some are in Simplicity hives, confined on 7 to 8 frames, with two $\frac{1}{2}$ -inch divison-boards, one on each side, and an upper story half full of new wheat chaff. The balance are in Langstroth hives, prepared below the same as those in Simplicity hives, with a 5-inch chaff cushion in the cap.

Last Wednesday the bees out-doors had a good flight, and seem to be in excellent condition.

Lima, Ills., Jan. 8, 1888.

SELLING HONEY.

Bees Drawing Out Foundation —Ignorant Bee-Keepers.

Written for the American Bee Journal
BY JOHN TURNBULL.

I have just had a peep into my beehive, and find the bees very quiet, with very few dead ones on the floor. The temperature is 40° above zero in the cave, and 26° below outside. On Nov. 18, 1887, I put in 5 rather weak nuclei and 55 good colonies with 20 to 50 pounds each of buckwheat honey, and honey from the fall flowers.

I started in the spring of 1887 with 48 colonies, increased them to 60, and took 700 pounds of honey in 1-pound and $1\frac{1}{2}$ -pound sections. White clover yielded but little, and basswood the same. There was much golden-rod, but the bees did not work on it. Where the chin-chug killed the winter wheat, wild buckwheat came up thick, and yielded well, and the bees preferred it to tame buckwheat.

For some reason or other, the bees did not like to draw out the foundation. I gave them some sections filled with comb, and they bulged them out of all proportions, some being 4 or $4\frac{1}{2}$ inches wide. I will have to use separators.

I have nearly all of my honey yet. I went to La Crosse, Wis., early in the fall to try to make some sales, and they asked me what I wanted for my honey. I told them 15 cents per pound. They laughed at me, and said that they could get all they wanted at 8 cents, and fully as white honey as I ever saw;

but it is worth $12\frac{1}{2}$ to 15 cents, and at retail 18 to 20 cents. I will try to get the names of those bee-men that sell their honey so cheap. They ought to read the good old AMERICAN BEE JOURNAL.

I tried to find the commission man in La Crosse that a "Rip Van Winkle bee-keeper" sold his honey to, as mentioned on page 789 of the AMERICAN BEE JOURNAL for 1887; but I could not find him. I know a La Crosse bee-keeper that bought several hundred pounds of honey for 8 to 10 cents per pound, and sold it at retail for 15 cents per pound.

La Crescent, Minn., Jan. 16, 1888.

CAVE FOR BEES.

The Season of 1887—Wintering Bees in a Cave.

Written for the American Bee Journal
BY A. REUSCH.

The past season has been the poorest one for honey in this locality that I have experienced since I have been in the bee-business. I began with 72 colonies in the spring, and a part of those were light, yet during April and May I got them into good working condition, but when June came the drouth commenced, and from that time they gathered hardly enough to live on.

My increase was 13 colonies. I had to feed the bees for winter, and I did not get honey enough for use in my own family, besides spending five months' labor, and an outlay of \$65 in cash. I believe in giving correct reports, whether good or bad.

A Cave for Bees in Winter.

I have always wintered my bees in the cellar, and very successfully. In 1886 I built a cave by digging $3\frac{1}{2}$ feet deep into the ground, and 25x8 feet, with posts of $6\frac{1}{2}$ feet set around it, 2 feet apart, and on top 1 foot apart, and then I nailed boards on all around. I banked up the sides and sodded them; on top I put earth about 18 inches thick, and covered the same with long slough-grass. In the west end is a ventilator made of lumber 7 inches square inside; at the east is an underground ventilator made of 4-inch tiling, and 60 feet long; and it has two doors, outside and inside.

The temperature ranges from 40° to 44° . The total cost was about \$50. I have 56 colonies in the cave, and 29 in the cellar, and they have wintered well so far, very few bees dying. I owe much thanks to the AMERICAN BEE JOURNAL for much valuable information.

Chariton, Iowa, Jan. 23, 1888.

WINTERING BEES.

How the Bees are Prepared for the Winter.

Written for the American Bee Journal
BY P. J. BATES.

I commenced the season of 1887 with 18 fair colonies of bees, from which I had 2 natural swarms, obtained 100 pounds of honey in one-pound sections, and a glass case of 24 pounds of comb honey, which I took to the Fair last fall, and which was pronounced the best filled and best appearing case of honey ever shown in this locality. Of course it took the premium.

On Dec. 5, I put 17 colonies into a new cellar under the sitting-room, without any ventilation excepting the door, where I go in every day to notice the temperature, which ranges from 38° to 46° . When at 46° , I can hear a low, quiet hum; when at 38° , the bees, to all appearance, are perfectly quiet. There has not been a pint of dead bees on the floor. The cellar is quite dry.

The bees were left in the same condition as they were on the summer stands, each colony being weighed when put in. The 3 colonies left on the summer stands were average colonies, in single-walled hives, without any protection except a cushion of forest leaves about 4 inches thick over them; and with an upward ventilation at the back part of the hive, $\frac{1}{2}$ inch by 4 inches, as an experiment, to try to get rid of the dampness that comes from the breath or cluster of bees. When I put them on the summer stands I will report again.

White Hall, Ills., Jan. 21, 1888.

SEASON OF 1887.

The Drouth Causes a Dearth of Nectar.

Written for the American Bee Journal
BY B. D. SCOTT.

I commenced the season of 1887 with 30 colonies of bees in fair condition, and increased them to 60 colonies. I bought 2 colonies last fall, so I have 62 in the cellar, and they are wintering finely, with the temperature at 42° , while it is 10° above zero outside. We have had no zero weather in this locality this winter.

My bees produced about 1,000 pounds of extracted honey, and 200 pounds of comb in one-pound sections, the past season. The season was very poor on account of the drouth. Alsike yielded well for a short time, but seemed to ripen all at once.

Basswood blossomed very profusely, and yielded honey for a few days; but when it should have been at its best, in an ordinary season, it was gone, being dried to a crisp on the trees without forming seed-balls. One bee-keeper said that he saw bees on the ground trying to get honey from the blossoms that had pollen.

Buckwheat has been a failure in this locality for several years, and why it is I am unable to explain, as the crop of grain is generally fair. We have had two poor honey seasons in this locality, but I am getting ready for the expected "gush" the coming season.

Ovid Centre, N. Y., Jan. 21, 1888.

SPECIALISTS.

Some Comparisons in Regard to Bee-Specialists.

Written for the American Bee Journal
BY WM. H. BALCH.

A specialist in bee-culture or honey-production is a man (whether he owns 5 or 1,000 colonies of bees) who keeps bees for their real profit in dollars and cents; who studies their nature and habits, so that the best methods of management in spring, summer and winter may be applied; who uses proper appliances at the proper time, that the best results may be attained; who keeps posted on the market, watching the present production as well as the amount of last year's crop on hand; who puts his honey in the best marketable shape possible, and who devotes the necessary time to accomplish the foregoing.

I am very sorry that I am not a specialist (and all who keep bees), although my first earthly possession, aside from a hand-sled, was a colony of bees. I have sold honey by the ton, and hundreds of colonies of bees and queens. Bee-keeping has been but a side-issue with me, so, as Dr. C. C. Miller terms it, I am on the "middle ground."

Can the specialist produce honey as cheaply as the "happy-go-lucky bee-men?" Oh, no! not in this region of country. But they are the very men that govern our home and city markets. Many may be surprised at that, but I can prove it by a demonstration, viz: The Doctor says that the bees cost the happy-go-lucky man nothing, and no labor bestowed. Well, that is about the truth; yet I have known some, and there are plenty of bee-keepers all around me, whose apiaries run up to 100 colonies, and each has 1,000 or 1,500 pounds of honey to sell.

Look at the specialist: He has a winter repository, shop, honey-house,

hives, sections, and other necessary fixtures, worth from \$500 to \$1,000. This, in a few years, will decay; but our farms do not, with 100 colonies, and with the necessary land to be occupied worth \$1,000 more. Here we have \$2,000 invested in perishable property, except the land, which will have to be replaced once in thirty years, or repaired to that extent. The interest on \$2,000 for one year, at 6 per cent., is \$120; to which add the replacing of perishable fixtures once in thirty years, which is \$66.66 a year, making a yearly expense of nearly \$187.

Then add to the above, hives, sections, crates, foundation, glass, etc., with winter losses, a hard year's work, and with the anxiety in a poor season; and then compute what your honey has cost the past two years! Some have put it up to a dollar per pound.

Oran, N. Y.

COLORADO.

Report of the Colorado State Convention.

Written for the American Bee Journal

The fifth annual meeting of the Colorado State Bee-Keepers' Association was held at Denver, Colo., on Jan. 19, 1888.

The usual discussions on the best methods of preventing bees from robbing, best method of wintering bees, foul brood, bee-diarrhea, etc., were indulged in. The honey product of Colorado was reported proportionately larger than that of any other State the past season. The industry of bee-keeping is in a thriving condition, and is developing rapidly.

The following officers were elected: President, E. Milleson, of Denver; Vice-President, Mrs. Levi Booth, of Denver; Secretary, J. M. Clark, of Denver; Treasurer, Mrs. R. H. Rhodes, of Arvada; and the Executive Committee composed of Wm. Davis and Mrs. Levi Booth. J. M. CLARK, Sec.

TRANSFERRING.

When to Transfer Bees—Fasten Foundation, etc.

Written for the American Bee Journal
BY F. B. REYNOLDS.

- When is the time to transfer bees in the spring, from one hive to another?
- When is the best time to put on sections?

My bees had a flight on Jan. 14, except 7 colonies in chaff hives, such as G. M. Doolittle describes. I have 35

colonies, some in Langstroth and some in Quinby hives. My bees did not gather much honey this season. I obtained about 500 finished sections, and about the same of unfinished sections. I am making 30 new chaff hives. I line the hives for winter with buckwheat hulls, of which I can get about a bushel in a hive.

Fastening Foundation in Sections.

The way I fasten foundation in the sections is, to put a dish over a small lamp, and put in it a piece of wax; take a glazier's knife and dip it into the wax, cut the starter the size wanted, take it in the left hand, and run the knife along on the section, then double it up, and you have it fast.

3. We have very much sweet clover here, our river banks being covered with it, and also the creeks; but my bees do not seem to work on it much. There is an immense quantity of it.

Rossburg, N. Y., Jan. 16, 1888.

1. Transfer bees in the spring, when there is the least honey in the frames, and in the middle of a fine, warm day.

2. Put on the sections when the honey-flow begins.

3. Many kinds of bee-pasturage do fail to produce nectar in some seasons, when the atmosphere is unfavorable to the secretion of nectar. Sweet clover is no exception to this.—ED.]

BEE-CELLAR.

Space for Each Colony in the Cellar—Temperature.

Written for the American Bee Journal
BY C. P. HEWETT.

After having a well regulated bee-cellars with ventilators that can be opened and closed at will, then comes the most important point, viz: the space that each colony should occupy. I find that 16 cubic feet, no more nor less, should be given to produce good results.

If more space is given, the harder it will be to keep the temperature up; less than that, the harder it will be to keep it down.

Proper Temperature in Bee-Cellars

I winter my bees at a temperature of 42°, and through this cold weather I have been able to hold the temperature at that point. We have now had 14 days that the temperature was below zero. I have not seen this mentioned by any writers. I consider it one of the most important points in wintering bees.

If the apiarist does not let the temperature go below 40°, or above 44°, he will not have any bee-diarrhea to report; if the hives are properly ventilated, unless the cellar is too damp.

Kingston, Wis., Jan. 23, 1888.

CONVENTION DIRECTORY.

1888. *Time and Place of Meeting.*
Feb. 4.—Stark County, at Canton, Ohio.
Mark Thomson, Sec., Canton, O.
Apr. 24.—Des Moines County, at Burlington, Iowa.
John Nau, Sec., Middletown, Iowa.
May 5.—Susquehanna County, at New Milford, Pa.
H. M. Seeley, Sec., Harford, Pa.

In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

First Snow-Fall, etc.—Mr. John Boerstler, Vashon, Wash. Ter., on Jan. 12, 1888, says:

The first snow fell to-day. The temperature was 9° above zero for 3 or 4 days; it was very cold here for a few days.

Honey Quotations, etc.—J. S. Catterson, Harvard, Neb., on Jan. 21, 1888, writes:

I started last spring with 2 colonies, secured one swarm, one absconded, and I took 100 pounds of comb honey. In conversation with a grocer a short time since, he said that he would pay "Chicago prices" for honey now, and on asking how much that was, he said, "From 5 to 7 cents per pound." Having just received the BEE JOURNAL from the post-office, I showed him where our style of honey (we have no white clover or basswood in this locality) was quoted at 17 and 18 cents. He realized that he was beaten, and proceeded to set forth the unreliability of "market reports." He affirmed that his price-list so reported it to him; but he did not exhibit the list.

Severe Winter—Poor Season.—H. L. Rouse, Ionia, Iowa, on Jan. 13, 1888, writes:

We are having a very severe winter, an unusual amount of snow having fallen already. Last night and this forenoon the wind blew a perfect gale from the northwest, while the thermometer marked 21° below zero this morning, and it kept at 18° below zero all day. It is 22° below this evening.

It does not get above zero very far nowadays.

I am wintering 100 colonies in chaff hives, and nearly one-half are completely buried in the snow. I commenced the season of 1887 with 90 colonies, intending to work them for extracted honey, but, alas! when fall came I had some experience but no honey, or just barely enough for winter stores. Therefore a big cipher would represent my income from the bees the past summer. My apiary is not the only one in this locality that has failed to reward the apiarist for his labors.

The AMERICAN BEE JOURNAL seems better than ever in its New Year's dress.

Cleansing Combs—Plants for Honey.—A. H. Dunlap, Aral, Kans., asks the following questions:

1. What can I do with combs full of bees, dead from starvation? 2. Will the bees take them out if put into other hives? 3. Name 6 or 8 of the best honey-plants, in the order of their excellence, and give a brief description of how and when to sow, plant and cultivate them. Such information would be worth a great deal to us who have a scarcity of natural honey-plants.

[1. Let the bees clean them out.
2. Yes.
3. Any of the books on apiculture will give you the information.—ED.]

Results of the Season.—Thos. E. Turner, Sussex, Wis., on Jan. 16, 1888, writes:

My 86 colonies of bees are doing finely in the cellar, so far this winter. The trying part of cellar-wintering I always find to be the last part of February and March. I have realized about 20 cents per pound for most of my 1,500 pounds of comb honey, and 10 cents per pound for 430 pounds of extracted honey—the crop of 1887. I hope for a full crop this year, instead of but 35 pounds per colony, for 1887; but I did better than many others around me, as some have hardly enough to winter their bees.

Honey for the Liver.—W. H. Smith, Mount Salem, Ont., on Jan. 21, 1888, gives the following directions for taking honey as a remedy for liver trouble:

Since my letter on page 27 was published, I have received several inquiries as to the method of taking honey for the liver, as mentioned in my letter.

In order to expedite matters, I concluded to reply through the AMERICAN BEE JOURNAL, and at the same time give all inquirers the benefit of my reply. Here it is, as practiced by my wife, who is now a living epistle of the virtues of honey as a liver medicine:

Take of Alsike clover or basswood honey, as much as can be taken without causing too much nausea, say every two hours through the day, until a cure is effected.

Bee-Escape for the Extracting-Room.

Albert H. Lind, Calumet Harbor, Wis., on Jan. 15, 1888, says:

I commenced the season of 1887 with 4 colonies, increased them to 10 colonies, and took 143 pounds of extracted honey. As a general thing, the honey crop of this part of Wisconsin was a very poor one. My bees were put into winter quarters on Nov. 20, 1887, and seem to be doing nicely. The bee-room gets its ventilation through a chimney. Will some one please write an article for the AMERICAN BEE JOURNAL on how to make a bee-escape for my extracting-room?

Bees did Well in 1887.—W. A. Evans, Gober, Tex., on Jan. 16, 1888, writes:

Bees did well here in the season of 1887. I started with 31 colonies, increased them to 66 colonies, and obtained 5,000 pounds of extracted honey.

Insuring Bees in the Cellar.

J. F. Miller, Rodman, N. Y., on Jan. 23, 1888, says:

As Mr. A. C. Waldron wishes to know about insuring bees against loss by fire, I would say that I have mine insured in the Niagara County Company, of New York City, from Nov. 1 to May 1, while they are in the cellar.

Good Yield in Texas.—Fred F. Rockwell, Leonard, Tex., on Jan. 18, 1888, writes:

Our season the past year has been good, my crop of honey being about 2,200 pounds from 18 colonies, spring count. The colony having my best Italian queen produced nearly 300 pounds of extracted honey. In 1886, during the drouth, I averaged 80 pounds per colony, and, strange to say, I did not get any surplus from the same source that I did in 1887. My surplus the past season was from horse-mint, cotton and fall flowers. In 1886 the yield was from rattan, and a new (to me) flower, analyzed by a botanist as one of the "golden-rods."



ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post office and get your mail at another, be sure to give the address that we have on our list.

Simmens' Non-Swarming System will be clubbed with the BEE JOURNAL for one year, both postpaid, for \$1.25.

Beeswax.—We will pay **20 cents** per pound, delivered here, for Yellow Beeswax. To avoid mistakes, the name of the shipper should always be on each package.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one **FREE**, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Please write **American Bee Journal** on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Money Orders for \$5.00 and under, cost 5 cents. As these are absolutely safe, it will pay to get them instead of the Postal Notes which are payable to any one who presents them.

Clover Seeds.—We are selling *Alsike* Clover Seed at the following prices: \$8.00 per bushel; \$2.25 per peck; 25 cents per lb. *White Clover Seed*: \$10.00 per bushel; \$2.75 per peck; 30 cents per lb. *Sweet, or Mellot, Clover Seed*: \$6.00 per bushel; \$1.75 per peck; 20 cents per lb.—by express or freight.

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for \$1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and \$3.00.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, \$1; $\frac{1}{2}$ pound, \$1.75; 1 lb., \$3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Yucca Brushes are employed for removing bees from the combs. They are a soft, vegetable fiber, and do not irritate the bees. We can supply them at five cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please to get your Neighbor who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now **SO CHEAP** that no one can afford to do without it.

Honey and Beeswax Market.

CHICAGO.

HONEY.—We quote: White comb, 16@18c.; dark, 18@15c. Extracted, 7@10c. Market dull, but more active demand looked for when weather moderates.

BEESWAX.—21@22c. Jan. 25. 8 T. FISH & CO., 189 S. Water St,

DETROIT.

HONEY.—Best white in 1-pound sections, 18@20c. Extracted, 9@10c. Demand brisk.

BEESWAX.—22@23c. Jan. 20. M. H. HUNT, Bell Branch, Mich.

CLEVELAND.

HONEY.—Best white 1-lbs. sections sell at 19@20c. ets. Extracted 7@9c. Demand small and supply fair

BEESWAX.—22@25c. Dec. 15. A. C. KENDEL, 115 Ontario St.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 16@19c.; the same in 2-lbs., 14@16c.; buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. Off grades 1@2c. per lb. less. White extracted, 8@9c. Market dull.

BEESWAX.—22@23c. Jan. 20. MCCALL & HILDRETH BROS., 28 & 30 W. Broadway, near Duane St.

KANSAS CITY.

HONEY.—We quote: Choice white 1-lbs., 18@20c.; dark, 16@18c.; choice white 2-lbs., 18@20c.; dark, 15 to 16. Extracted, white, in 60-lb. tin cans, 9c.; in barrels, 8c.; dark, in barrels, 5@6c. California 2-lb. white comb, 18c.; dark, 18c. Extracted, white, in 60-lb. cans, 8@9c.; amber, 8c.

BEESWAX.—No. 1, 20c.; No. 2, 16@18c. Dec. 19. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—Choice comb, 18@20c.; latter price for choice white clover in good condition. Strained, in barrels, 5@6c. Extra fancy, and of bright color and in No. 1 packages, 4-cent advance on above. Extracted, in bbls., 6@7c.; in cans, 7 to 9 cents. Short crop indicates further advance in prices.

BEESWAX.—20c. for prime. Dec. 19. D. G. TUTT & CO., Commercial St.

CINCINNATI.

BEESWAX.—Demand is good—20@22c. per lb. for **HONEY.**—We quote extracted at 4@5c. per lb. Choice comb, 16@20c., in the jobbing way. Demand fair and supply good.

Good to choice yellow, on arrival. Jan. 24. C. F. MUTH & SON, Freeman & Central Av.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17@19c.; fancy 2-lbs., 15@16c. Lower grades 16@20c. per lb. less. Buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. Extracted, white, 9@10c.; buckwheat, 6@7c.

Demand has slackened some, and to make sales we must shade above prices. About Jan. 15 we expect a more active demand.

Dec. 31. F. G. STROHMEYER & CO., 122 Water St.

PHILADELPHIA.

HONEY.—Fancy white 1-lbs., 18@19c.; fair 1-lbs. 17@18c.; dark 1-lbs. are slow sale at 14@15c.; fancy 2-lbs., white, 15@16c.; buckwheat fancy 1-lbs., 13@14c. etc.; common, 12c. Prices tend downward.

BEESWAX.—22@24c. Dec. 11. ARTHUR TODD, 2122 N. Front St.

MILWAUKEE.

HONEY.—Choice white 1-lbs., 20c.; fair, 19@20c.; 2-lbs., 18@19c.; 3-lbs., 16@18c. White extracted in kegs or half-barrels, 9@10c.; in pairs or cans, 9@10c.; amber, in 1/2-barrels, 9@10c.; dark in kegs and barrels, 7@8c. Demand good, supply fair.

BEESWAX.—22@25c. Dec. 15. A. V. BISHOP, 142 W. Water St.

SAN FRANCISCO.

HONEY.—We quote: White to extra, 13@18c.; amber, 12@16c. Extracted, white liquid, 7@8c.; amber and candied, 6@7c. Market quiet.

BEESWAX.—22@24c. Jan. 14. SCHACHT & LEMCKE, 122-124 Davis St.

BOSTON.

HONEY.—We quote: 1-lb. sections, 16@17c.; 2-lb. sections, 14@15c. Extracted, 8@9c. The market is not very brisk and sales are slow.

BEESWAX.—25 cts. per lb. Jan. 12. BLAKE & KIRPLEY, 57 Chatham Street.

KANSAS CITY.

HONEY.—We quote: Choice white 2-lb. sections, 17@18c.; dark 2-lbs., 14@15c.; choice white 1-lbs., 18 to 20 cts.; dark 1-lbs., 15@16c. White extracted, 7@8c.; dark, 6@6c. Demand is light.

BEESWAX.—21 to 22c. Jan. 10. HAMBLIN & BEARSS, 514 Walnut St.

DENVER.

HONEY.—Best white 1-lb. sections, 19@20c.; 2-lb. sections, 16@18c. Extracted, finest grade, 12@13c.; dark, 8@9c. Market firm and stocks light.

BEESWAX.—20@23c. Jan. 16. J. M. CLARK & CO., 1409 Fifteenth St.

SAN FRANCISCO.

HONEY.—We quote: White comb, 17@19c.; amber, 12@15c. Light amber to white extracted, 7@8c.; amber, dark and candied, 6@7c. Market firm and stocks light.

BEESWAX.—22@23c. Dec. 12. O. B. SMITH & CO., 423 Front St.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the *American Bee Journal* must be sent with each order for another paper or book:

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Bee-Keepers' Review	1 50... 1 40
The Apiculturist	2 00... 1 80
Canadian Bee Journal	2 00... 1 80
Canadian Honey Producer	1 40... 1 30
The 8 above-named papers.	5 90... 5 00
and Cook's Manual	2 25... 2 00
Bees and Honey (Newman)	2 00... 1 75
Binder for Am. Bee Journal	1 60... 1 50
Dzierzon's Bee-Book (cloth)	3 00... 2 00
Root's A B C of Bee-Culture	2 25... 2 10
Farmer's Account Book	4 00... 2 20
Simmins' Non-Swarming	1 50... 1 25
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